

Summary of Antidegradation Comments

General

(Kevin Murray)

In regard to your request for "hot topics," I understood that formation of this group grew out of the triennial review process. As part of that process DWQ identified as areas of discussion e coli, TDS and stream classification. It seems to me that since the division has already identified these as priorities that they should be the first items addressed by the group. Since we have limited time for this exercise I doubt we can deal with all of the issues that are "hot" to various parties and that time would be better spent **first addressing those matters determined by the agency as of importance.**

Off Ramps

(Dave Moon)

Utah's current antidegradation rule was approved by EPA (by letter dated 10/17/2005), and we continue to believe it is consistent with the minimum federal requirements. However, there appear to be opportunities to clarify and strengthen the rule. Regarding the "off ramps" at 317-2-3.4(b), we would like to suggest the following straw proposals for consideration and discussion:

1) Consider re-organizing so that there is one set of criteria to be used **in identifying segments that are not subject to the review process** described in 317-2-3.4(c), and a separate set of criteria to be used in **identifying parameters that are to be excluded from the antidegradation review process.** The purpose would be to more clearly distinguish and separate the criteria that are based on attributes of the segment as a whole from the criteria that are based on parameter-specific information.

2) Consider combining **offramps 4, 8, and 9** into a single criterion intended to exclude from review the parameters with no available assimilative capacity. The rationale would be that these provisions are quite similar, and it would streamline the rule and possibly help avoid confusion to combine them in a single provision.

3) Consider revising **offramp 6** such that Class 3E and Class 4 (only) segments are not subject to antidegradation review requirements. The rationale would be that the "high quality waters" decision for 3A, 3B, 3C, and 3D waters should be made with segment-specific information. Available data should be evaluated and the data should drive the decision. This approach avoids the need to make a categorical conclusion that all Class 3C segments, for example, are not worthy of Level 2 antidegradation review. Under this straw proposal, individual 3A, 3B, 3C, or 3D segments could still be excluded from antidegradation review based on segment-specific information (e.g., where, pursuant to offramp 7, a segment has been rated a poor quality fishery). It may also be appropriate to consider whether revisions to offramp 7 are appropriate. For example, is there a need to make adjustments to the "poor quality fishery" decision criterion? Also, are there other data-driven criteria that could be added? For example, one possibility would be to exclude from antidegradation review segments where impairment is indicated by both (1) chemical-specific or parameter-specific monitoring information and (2)

biological monitoring and assessment results (i.e., multiple lines of evidence). Our understanding is that the 2008 303(d) listing method will include that type of approach.

4) Consider revising **offramp 10** (317-2-3.4(b)(10)) to focus on existing facilities and how proposals to expand would affect ambient water quality. Currently, the focus of this offramp is on proposed changes in loading. The rationale for revising the language would be that the best way to evaluate the significance of a proposed activity is to consider how the activity would change ambient water quality concentrations, on a **parameter-by-parameter** basis. It may be appropriate to retain the option to consider changes in loading in some cases (e.g., for bioaccumulatives and nutrients). It may also be appropriate to evaluate changes in loading from existing facilities as an initial screen (an onramp), to quickly identify proposed changes that should be considered significant (so that changes in ambient concentration need not always be evaluated). Offramp 10 also appears to be the logical place to consider the cumulative degradation that has resulted from all sources. A variety of States have adopted such approaches. Although there is flexibility available to States on this topic, one possibility is a decision criterion for existing facilities such as the following:

With the exception of parameters not amenable to this approach (e.g., dissolved oxygen), and parameters where any loading increase is considered by the Division to pose a threat to designated uses (e.g., nutrients in lakes/reservoirs threatened by eutrophication problems), individual parameters shall be excluded from Level II review if the proposed increase in authorized loading from an existing facility would be less than 50%, provided that the proposed reduction in assimilative capacity as a result of the facility-specific proposal (after mixing) would be less than 5%, and the reduction of assimilative capacity on a cumulative basis as a result of all sources (after mixing) would be less than 20%.

5) Consider making changes to establish that, even for waters/parameters where only a Level I review is required, the existing use protection requirements described in 317-2-3.4(c)(7) and (8) will be implemented.

As discussed in Section 4.4 of the EPA Water Quality Standards Handbook (1994), existing use protection requirements establish a **“floor” level of protection** that applies to all waters of the U.S. Under this straw proposal, the questions related to existing uses would be addressed as part of both Level I and Level II reviews. The current Utah antidegradation rule addresses the need for existing use protection by providing the Executive Secretary with discretion to require a full antidegradation review “if an existing use may be impaired.” See the last paragraph of 317-2-3.4(b). The rationale for this straw proposal would be that existing use protection should be an automatic and non-discretionary aspect of both Level I and Level II reviews.

(Brad Rasmussen)

I believe an **additional off ramp should be associated with planning a project**. Most of the Level II review items are addressed as part of planning for an expansion or a new facility. With the different alternatives being evaluated to select a process there should not be a need to readdress the same items to a different department in water quality.

(Merrit Frey)

1.) We’d like to propose and discuss a three-tier approach to the **“de minimus” off-ramp** idea. This would include:

- a percent loading increase trigger for the off-ramp provided that:
- the expanded discharge consumes less than a certain percentage of the waterbody's assimilative capacity and
- the total degradation (cumulative cap to address "pollution creep" idea) in the waterbody is less than a certain percentage of the waterbody's assimilative capacity based on baseline data. This approach allows for some de minimus activities without review, but does what antidegradation is designed to do – ensure that water quality is not lowered until it just meets criteria without any sort of broader public decision about alternatives and cost/benefit.

2.) The Council would like the DWQ to consider removing the off-ramp for 3C/3D waters. **(off-ramp 6)** Rather than excluding entire classes of waters which were not classified based on specific data about the biota, structure, etc. of the stretch, the DWQ should off-ramp based on specific data about the stretch or discharge – such as a 303(d) impairment. This is also based in part on bigger problems with class 3C, which we would like the group to discuss later. An off-ramp for 3E and 4 only waters may be appropriate, as those designations appear to be largely based on data about the biota, structure, etc. of the stretch. Discussion?

3.) The Council supports the idea of combining the 4 impaired waters **off ramps (2, 4, 8 and 9)** into one off-ramp in order to make the rule clearer and to underline the fact that this is a parameter by parameter off-ramp. This combined off-ramp would be something like the following: For the parameter of concern, the relevant stretch or waterbody is either:

- on the list of 303(d) impaired waterbodies;
- operated under an existing TMDL and the proposed permit limits comply with Wasteload Allocations assigned in that TMDL; or
- the assimilative capacity of the waterbody is essentially allocated.

4.) We would like to discuss some broad sidebars to the **off-ramp for “temporary and limited” degradation**. For example, can we agree that “temporary” should mean weeks or months, not years?

5.) We'd like to better understand the use of the **“poor quality fisheries” off-ramp**. Are these really 3E waters anyway? Or should they be 303(d) listed? What is the real meaning of this designation?

6.) We'd also like to discuss the approach to **existing discharges that have never undergone an antidegradation review**. What is the DWQ's take on these discharges?

Pollution Creep

See Dave Moon's summary of other states' rules on Pages 6 and 7.

See Example Sheet of calculations based on current context of Off-ramps 10(a), 10(b), and 11.

(Brad)

Pollution creep- one of the big problems with pollution creep is it is typically synonymous with population creep. It seems to be a little unrealistic to anticipate the population in the state to increase by a million people in the next 20 to 30 years, and at the same time expect the water quality to be unaffected. As we transform water pollution to a combination of solid waste and air pollution we need to be careful to do what is best for the big picture and not focus so tightly on water pollution and neglect the other forms of pollution that are created by treating water.

Level I and Level II Antidegradation Review Issues

(Dave Moon)

With respect to R317-2-3.4(c) “Antidegradation Review Process,” the rule in its current form was approved by EPA as consistent with minimum federal requirements. We offer the following straw proposals for consideration by the work group, for the purpose of identifying topics where it may be appropriate to clarify/strengthen the current rule:

- 1) Consider whether there is a need to clarify/establish the antidegradation review procedure for **new/expanded discharges** that would affect the water quality of the Great Salt Lake.
- 2) Consider whether there is a need to **clarify/establish the antidegradation review procedure for parameters for which there are no numeric criteria** (e.g., nutrients).
- 3) Consider whether it would be useful to **create a standard worksheet** or form for use in completing Level I and Level II antidegradation reviews. A standard form might facilitate documentation of the needed supporting information and conclusions, particularly by individuals who are not intimately familiar with the requirements.

(Brad)

Level II antidegradation reviews – I do not see additional alternatives that need to be reviewed as part of a Level II review. However, there are several off ramps, such as the TMDL or 303(d) listings, that require more in-depth reviews. I think these off ramps should somehow be considered Level II reviews. I am concerned that someone will look at the list of Level II reviews and determine that that the State is not doing enough. However, if they are being done as part of a TMDL it should count toward the reviews being completed. They are effectively being done by a different [section] in DWQ but they do not count as a Level II review. If an additional off ramp is added to allow the planning [section] to conduct the same evaluation this will compound the problem. I believe the Level II review should be the catch-all for potential discharges that do not get evaluated in the normal processes.

(Merrit)

- 1.) At its most basic, we would like to see the rule better **define “important economic and social development”** and provide a mechanism to review those benefits weighed against the costs (potential harm to recreation or wildlife, loss of assimilative capacity for future uses, etc.) of the decision to degrade water quality.
- 2.) More broadly, we’d like to discuss **the structure of the review** to ensure that the information needed, the review process, and decision making process is clear.

DRAFT Summary of State-Adopted “Cumulative Degradation” Provisions
(By Dave Moon)

EPA Guidance

See EPA HQs memorandum dated 8/10/2005.

Colorado

Summary: For bioaccumulative toxic pollutants (BAF equal to or greater than 1000 l/kg), degradation is not significant if the new/increased loading is less than 10% of the existing total load, provided that the cumulative increased loading is not more than 10% of the baseline total load. For other pollutants, degradation is not significant if: (a) the low flow dilution ratio is 100 to 1 or more, or (b) the activity will consume, after mixing, less than 15% (cumulatively) of the baseline assimilative capacity (default baseline is as of 9/30/2000), or (c) the activity will result in only temporary or short term changes in water quality.

Approved 11/30/2000.

Kentucky

Summary: Kentucky's antideg regulation allows KPDES permit renewals and modifications that result in less than a 20% increase in pollutant loading from the previously permitted pollutant loading to occur as de minimis increases (and not subject to further antidegradation review) unless the increase will consume 10% or more of the available remaining assimilative capacity. [Cumulative cap above which an antideg review is required].

See explanatory letter from Kentucky to EPA dated 4/11/2005.

Approved by EPA (4/12/2005).

Maryland

Summary: An alternatives analysis must be completed as part of all antidegradation reviews (where antidegradation reviews are required); however, the social and economic justification (SEJ) aspect of the antidegradation review is required only if the result of the discharge would be that assimilative capacity is cumulatively reduced (all sources) by more than 25% percent from the baseline water quality determined when the water body was listed as Tier II.

Missouri

Summary: Degradation of assimilative capacity may be allowed if it is considered minimal degradation or if it is justified in accordance with an antidegradation review. Degradation is considered minimal if the reduction of assimilative capacity as a result of the new or proposed loading (i.e., event-specific) is less than 10 percent, and the loss of assimilative capacity as a result of cumulative degradation is less than 20 percent. "Cumulative

Degradation” is the reduction of a segment’s assimilative capacity from separate discharges approved by the department following the establishment of the water's existing water quality.

Undergoing State rulemaking; not yet submitted to EPA.

Montana

Summary: Water quality changes considered not significant include but are not limited to:

- For carcinogenic/bioconcentrating parameters, if the discharge concentration is equal to or less than background concentration.
- For toxic parameters, if the discharge will not cause changes that exceed the trigger value; if the trigger value is exceeded, the change is not significant if the resulting concentration outside of the mixing zone does not exceed 15% of the lowest applicable standard.
- For parameters other than nitrogen, phosphorous, and carcinogenic/bioconcentrating, or toxic parameters (e.g., salinity), if the change in concentration outside the mixing zone is less than 10% of the applicable standard and the existing water quality level is less than 40% of the standard.

Approved by EPA.

New Hampshire

Summary: Procedure reserves 10% of total assimilative capacity as not to be degraded. There is a threshold of 20% of available assimilative capacity for individual activities, but NH can determine that the discharge is nonetheless significant based on several factors, including cumulative effects.

Approved by EPA.

New Mexico

Summary: For both municipal and industrial discharges, the procedure requires antidegradation review when the proposed degradation, taken together with all other approved changes, uses more than 10% of the assimilative capacity (cumulatively), once the baseline water quality is established. See Figure 2 in the procedure.

Approved by EPA.

Link to NM’s Procedure: <http://www.nmenv.state.nm.us/swqb/cpp/2004cpp.pdf>

North Carolina

Summary: For toxic substances that are discharged to High Quality waters (i.e., a specific supplemental designation that is applied to certain 131.12(a)(2) waters in the State), "The limit for a specific chemical constituent shall be allocated at one-half of the normal standard at design conditions." [Cap over which no additional lowering of water quality is allowed - this essentially resets the toxics criteria for these waters at one-half of the designated water quality criteria]

Approved by EPA.

Tennessee

Summary: If more than one activity has been authorized in a segment and the total of the impacts uses no more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow, they are presumed to be de minimis. Where total impacts use more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow they may be treated as de minimis provided that the division finds on a scientific basis that the additional degradation has an insignificant effect on the resource and that no single activity is allowed to consume more than five percent of the assimilative capacity, available habitat or 7Q10 low flow.

Submitted to EPA by the State. Currently under review by EPA.

West Virginia

Summary: Degradation significant if the activity reduces assimilative capacity by 10% or more. In addition, degradation is significant if the proposed activity, together with all other activities allowed after establishing the baseline water quality, result in a reduction of 20% or more of the baseline available assimilative capacity.

Court Vacates: The original EPA approval of the above cumulative degradation provision was vacated (8/29/2003 decision).

http://www.ohvec.org/issues/mountaintop_removal/articles/antideg.pdf

EPA Action on Remand: The provision was re-approved by EPA Region 3 with a 11/14/2006 action letter.

Wisconsin

Summary: Degradation is considered significant and subject to antideg review if the proposed new or increased discharge, along with all other new or increased discharges after March 1, 1989 (taking into account any changes in assimilative capacity over time) results in an expected level greater than one-third of the assimilative capacity for any indicator parameter other than dissolved oxygen.

Approved by EPA

Wyoming

Summary: Degradation is not significant if new/increased loading is less than 10% of the existing total load; provided that cumulative increased loading from all sources does not exceed 10% of baseline total load for the segment (the baseline total load is established at the time of the first proposed lowering of water quality).

Approved by EPA (1/25/2002)